1 Introduction

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1.1 Overview

The „SIMADYN D parallel programmer“ product consists of hardware- and software components. The parallel programmer hardware is available in 2 different versions:

- PP1I Internal version for installation in PCs
- PP1X External version with connection to a parallel LPT interface

The following programs are loaded on the „parallel programmer V2.1“ floppy disk:

Driver programs:

- SIMADYN.SYS DOS driver for the parallel programmer
- PG*.* and X*.* DOS driver for the SIMATIC PG programming interface

Utility programs:

- MSVR Pre-processing, RCOP ON-/OFFLINE
- MSPP Module programming

The driver programs are required, to program or read SIMADYN MSx memory sub-modules using the parallel programmer.

MSPP and MSVR are DOS utility programs, which can be used to program the MS modules without the STRUC G/L 4.2 configuring software, or which can be used to read-out the change- and configuring data offline and online without the RCOP 4.2 service software.

The **parallel programmer** is a programmer for SIMADYN P32 and P16 modules. Two slots for the two different memory types are accessible from the front panel.

The slot for P16 modules is located on the lefthand side, and the narrower slot for the P32 modules on the righthand side (Fig. 1.1).

The following SIMADYN module types can be inserted in the **P16 slot**:

- MS41/44 (EPROM)
- MS45 (SRAM)
- MS47 (EPROM)
- MS300 (EPROM)
- MS48 (Flash-EPROM)

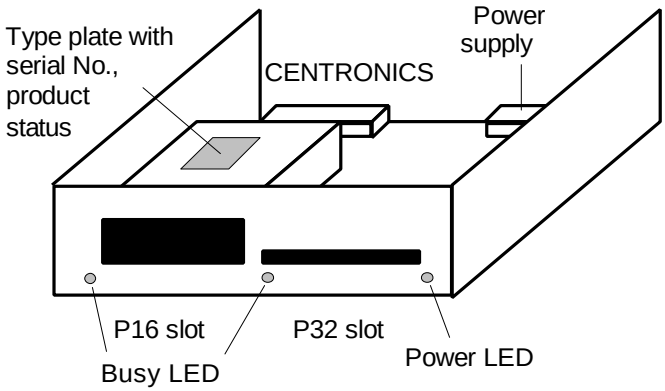


Fig. 1.1 Parallel programmer

***The following SIMADYN module types can be inserted**: **in the** P32 slot:*

- MS55 (SRAM)
- MS5 (FLASH)

or:

- Standard PCMCIA memory cards

CAUTION

The ESD guidelines must be observed when handling SIMADYN D modules.

There is an **internal** (PP1I) and an **external** (PP1X) version of the parallel programmer.

The internal version consists of 5¼" drive compartment, which is installed in the PC. The power supply is realized from the PC power supply unit.

The external version has its own housing. It draws its power from the 230 V supply.

In both cases, communications with the PC is realized through a **CENTRONICS** interface. For the internal version, an appropriate interface card is included in the scope of supply. This is typically configured as LPT2, so that the standard LPT1 interface remains free for the printer.

The external unit can be connected to every CENTRONICS interface.

The **device driver** ´SIMADYN.SYS´ generates two new **drive letters**. The P16 slot is addressed under the first drive, and the P32 slot under the second.

CAUTION

The **device driver** ´SIMADYN.SYS´ generates two new **drive letters**.
Thus, drive substitutions, for example, using the MS DOS command SUBST, should be used with care!

1.2 Introduction

1.2.1 Internal version

MLFB	6DD1672-0AF0
Code	PP1I
Item No.:	634 683

1.2.1.1 Scope of supply

1 parallel programmer in the 5¼" installation rack

1 CENTRONICS plug-in card (pre-configured as LPT2)

1 cable set for a CENTRONICS interface (ribbon cable)

1 V piece for the PC power supply connector

1 installation floppy disk, "Parallel Programmer V2.x.y."

1.2.1.2 Installation

The position of all of the connections/slots/labels of the internal parallel programmer (PP1I) are shown in Fig. 1.2:

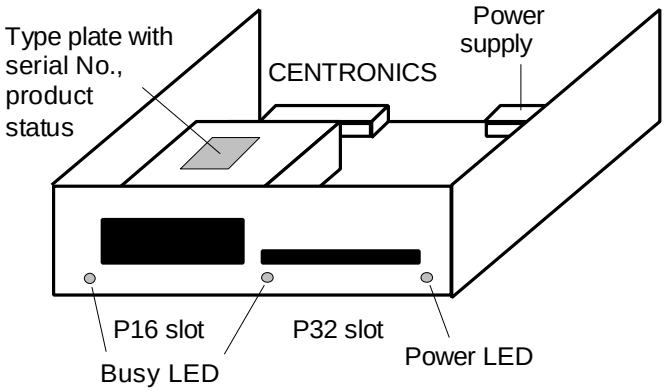


Fig. 1.2 Internal parallel programmer

NOTE
Please take the details for installing options from your PC Manual.

- Switch your PC off.
- Open-up your PC.
- Insert the parallel programmer into a free 5¼" drive compartment and retain it using the screws provided.

  In order to guarantee an optimal ESD-connection, it should be noted that there should be a connection between the parallel programmer rack and the PC housing.
- Connect the CENTRONICS plug-in card with the parallel programmer using the ribbon cable. Observe the correct polarity: The red core of the ribbon cable must be inserted at pin 1 of connector strip PTR2 (Fig. 1.3).

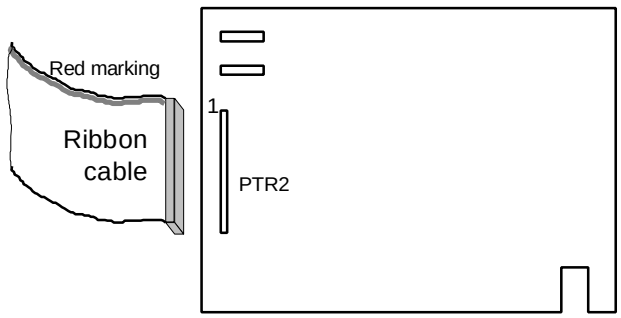


Fig. 1.3 CENTRONICS plug-in card

Before installing the CENTRONICS plug-in card, it should be checked whether this is correctly set for your PC (jumper setting, refer to Section 4).

The card is pre-set as LPT2 (port address 0278h). As most PCs only have a printer interface (LPT1), this setting generally does not pose any problems.

If two LPT interfaces are already available, one of these must be removed or re-configured to an alternative address, as the CENTRONICS plug-in card supplied only permits the LPT1/LPT2 settings.

- Install the CENTRONICS card, and retain it on the slot panel with the screw provided.
- Insert the 25-pin SUB-D connector of the ribbon cable into the CENTRONICS card socket. Insert the other end into the parallel programmer.

  Retain the ribbon cable using a cable tie.
- Establish the parallel programmer power supply.

  If your PC power supply still has a free connection for peripheral devices, then this can be used.

  Otherwise, you must disconnect a floppy drive (5¼") or a hard disk from the power supply. Attach the supplied V piece to the free power supply connector. Then connect the parallel programmer and the floppy or hard disk to the PC power supply through the V piece.
- Close-up your PC.

1.2.2 External version

MLFB	6DD1672-0AD0
Code	PP1X
Item No.:	634 691

1.2.2.1 Scope of supply

1 parallel programmer in a metal enclosure
1 SUB-D 25-core cable (socket connector/plug connector)
1 line supply cable
1 Manual
1 installation floppy disk, "Parallel Programmer V2.x.y"

1.2.2.2 Installation

All connections/slots/labels of the external parallel programmer are shown in Fig. 1.4:

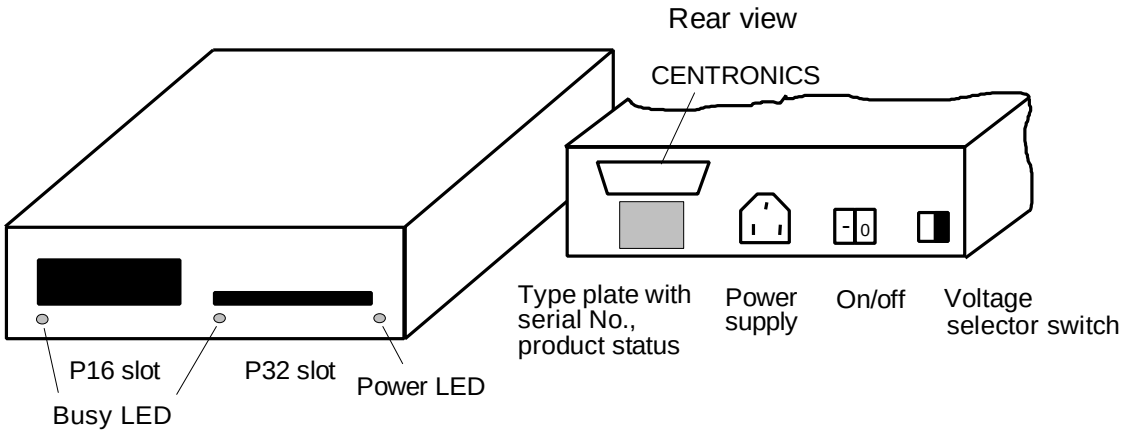


Fig. 1.4 External parallel programmer

- Connect the parallel programmer to the CENTRONICS interface of your PC using the cable supplied.
  When doing this, observe which interface is configured (LPT1, LPT2, ...).
  You will require this information when installing the software.
- Connect the parallel programmer to the line supply.

	CAUTION
	The parallel programmer can be supplied with either 230 V AC or 115 V AC. 230 V AC is pre-selected. Check that the parallel programmer setting corresponds to your particular line voltage supply.

1.3 Introduction

1.3.1 INSTALL.EXE installation program

The software is supplied with an installation program, which sets-up the following directories on your PC, and copies the files from the floppy disk into the directories:

c:\SIMADYN	Driver program, parallel programmer
c:\SIMADYN\PGM	Utility programs and PG driver programs
c:\SIMADYN\MDS	Message text files
c:\SIMADYN\BIB	Basic STRUC software
c:\SIMADYN\AWD	User files
c:\SIMADYN\AWD\PJV400	Standard project

Files on the "parallel programmer" installation floppy disk:

INSTPP1.EXE	Installation program, parallel programmer
INSTALL.BAT	Installation program, utility programs

¨ **Driver programs:**

SIMADYN.SYS	Driver, parallel programmer (C:\SIMADYN)
MEL*.*	Parallel programmer, test programs (C:\SIMADYN)
PG*.* and X*.*	Driver, SIMATIC PG programming interface (C:\SIMADYN\PGM)
READ.ME	Current information on the various programs

¨ **Utility program, MSPP:**

MSPP.EXE	Dialog program (C:\SIMADYN\PGM)
L3DIA.MDS	Message texts from the dialog program (C:\SIMADYN\MDS)
D0STRU.MDS	Message texts from the dialog program (C:\SIMADYN\MDS)
L3STRUEX.EXE	Control program (C:\SIMADYN\PGM)
L3STRU.MDS	Message texts from the control program (C:\SIMADYN\MDS)

¨ **Utility program, MSVR:**

MSVR.EXE	Dialog program (C:\SIMADYN\PGM)
R5DIA.MDS	Message texts from the dialog program (C:\SIMADYN\MDS)
R4RCOP.EXE	Control program VOR-ON (C:\SIMADYN\PGM)
R4RCOP.MDS	Message texts from the control program VOR-ON (C:\SIMADYN\MDS)
R4RCOP.INI	COM interface file
R5RCOP.EXE	Control program VOR-OFF (C:\SIMADYN\PGM)
R5RCOP.MDS	Message texts from the control program VOR-OFF (C:\SIMADYN\MDS)

1.3.1.1 Installing the parallel programmer for STRUC G (operating system: SCO-ODT V3.0)

- Log-on as root on an ASCII console
- Start DOS emulation using: `dos` Enter (enter key)
- Insert the „Parallel Programmer V2.1“ floppy disk in a drive (e.g. a:)
- Start installation with: `a:install` Enter (enter key)

The first step is to select either German or English dialog. The installation program recommends a drive and a directory, in which the program files should be copied,

e.g.: `c:\simadyn`

Acknowledge this recommendation with Enter (enter key) or enter the required drive and directory.

The parallel interface (LPT1 or LPT2) must now be specified, at which the parallel programmer is to be connected.

NOTE
You can start the installation program at any time in order to change the device driver parameter (LPT1 or LPT2). Specify the same directory as for the initial installation.

The installation program then copies all of the required files into the specified directory and automatically makes the entries into the CONFIG.SYS and AUTOEXEC.BAT files.

Entries:

- AUTOEXEC.BAT:
  The installation directory of the driver is attached to the existing path; the environment variables are set for the utility program at the **first installation**:
  set ST_SAWBIB = `c:\simadyn\bib\`
  set ST_SYSTEM = `c:\simadyn\pgm\`
  set ST_MDSDAT = `c:\simadyn\mds\`
- CONFIG.SYS:
  If you selected as directory `c:\simadyn`, and the parallel programmer is connected to LPT2, the following line is entered: `device= c:\simadyn\simadyn.sys /A=278`

If you have already specified the parallel programmer when installing your STRUC G system, then the installation is now completed.

If not, then you must call-up the STRUC G installation again and select the „burn“ menu item. For more detailed information, refer to the STRUC G Manual.

1.3.1.2 Installing the parallel programmer for STRUC L

Insert the „Parallel Programmer V2.1“ floppy disk in a drive (e.g. a:).

Start the installation with: `a:install` Enter (enter key).

The additional steps are then the same as when installing STRUC G.

1.3.1.3 Manual software installation

- Create the directories, in which the utility programs and drivers, which are necessary to operate the parallel program, can be copied on your hard disk, e.g.: `C:\SIMADYN`
- Insert the "Parallel Programmer V2.1" installation floppy disk in your floppy drive (e.g: a:)
- Copy the files from the floppy disk into the target directories
- Supplement your CONFIG.SYS with the following line `DEVICE=C:\SIMADYN\SIMADYN.SYS /A=xxx`
  (xxx is the port address of your CENTRONICS interface)
  The standard address for LPT1 is 378[H], LPT2 is at 278[H]. Some manufacturers (e.g. COMPAQ) sometimes use the address 3bc[H]. Please take the details regarding the permissible drive parameters from the READ.ME file.
- Supplement AUTOEXEC.BAT with:
  path = `c:\simadyn;.....`
  set ST_SAWBIB = `c:\simadyn\bib\`
  set ST_SYSTEM = `c:\simadyn\pgm\`
  set ST_MDSDAT = `c:\simadyn\mds\`
- Re-start your computer

The following files must be stored for the MVPP utility program in the library path ST_SAWBIB:

P16: 0@asw.bin, 0@gsw.bin

P32: 0@asw.br3, 0@gsw.br3, 0@bsw.br3, 0@isw.br3

If a STRUC L system V3.x is installed in your PC as standard, then the path structure is as follows:

```
c:\
└ struc
    └ user0
    └ user1
```

In this case, the set commands should be set as follows in the AUTOEXEC.BAT:

set ST_SAWBIB = `c:\struc\user0\`
set ST_SYSTEM = `c:\simadyn\pgm\`
set ST_MDSDAT = `c:\simadyn\mds\`

1.4 Introduction

1.4.1 Installation test of the drive

¨ **STRUC G**

To test the parallel programmer, end the active DOS window with QUIT, and open a new one with the entry: `dos +amcrd340` Enter (enter key).

¨ **STRUC L**

The PC must be re-booted after the device driver was correctly installed in CONFIG.SYS, so that the SIMADYN.SYS driver is loaded.

¨ **STRUC L and STRUC G**

The driver must now log-on as follows:

Example: SIMADYN DRIVER V 2.1
(c) 1994 CSM GmbH
Installed as drives D,E
Uses: Port 378

The SIMADYN.SYS device driver always generates two drive letters:

- the first drive always refers to the P16 slot
- the second drive always refers to the P32 slot

NOTE
It is not permissible that both slots are simultaneously used. If this is the case, the parallel programmer outputs an error message.

The parallel programmer can be immediately addressed under the drive name, specified in the boot message (e.g.: D: and E:).

The parallel programmer is ready, if the driver is correctly loaded and the parallel programmer was correctly installed.

There are two openings on the front of the parallel programmer to insert SIMADYN memory modules:

- left, the larger P16 slot for MS4X modules
- right, the narrow P32 slot for MS5X modules

CAUTION
It is not permissible to remove an MS module when it is being accessed. It could be destroyed. The red busy LED is lit when it is being accessed.

1.4.2 EPROM modules and FLASH cards

The MELCARD manager MELCOPY.EXE is included with the parallel programmer, which allows easy access to all of the memory types supported by the parallel programmer. The ´MELCOPY.DOC´ on the driver floppy disk contains the complete Instruction Manual for this program.

1.4.2.1 EPROM modules in the P16 slot

The following modules can be programmed in the P16 slot:

- MS41/44 EPROM 512 kB, EEPROM 2 kB
- MS45 SRAM 512 kB, EEPROM 8 kB
- MS47 EPROM 512 kB, EEPROM 2 kB
- MS48 Flash-EPROM 512 kB, EEPROM 8 kB
- MS300 EPROM 512 kB, EEPROM 2 kB

Two programming algorithms are supported for programming EPROM modules:

- INTEL QuickPulse™ (100 µs programming pulses)
- INTEL standard algorithm (1 ms programming pulses)

1.4.2.2 FLASH cards in the P32 slot

The following memory types can be programmed in the P32 slot:

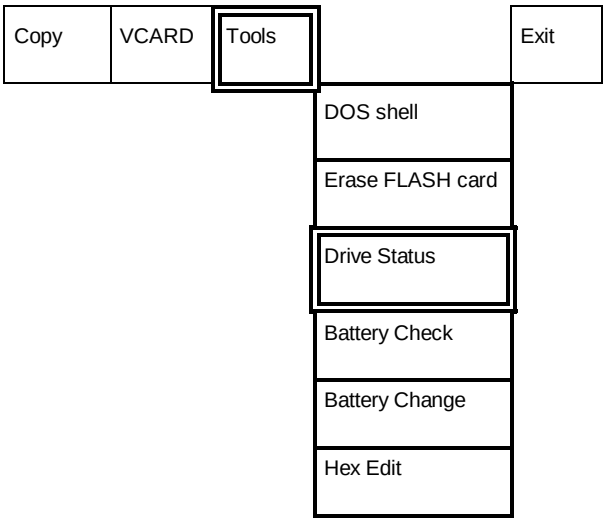
- MS55 SRAM 2 MB, EEPROM 8 kB attribute memory
- MS5 FLASH 2 MB, EEPROM 8 kB attribute memory

1.4.3 Test using MELCOPY

Using the MELCOPY.EXE tool, you can check whether the parallel programmer was successfully installed.

Enter the following to start MELCOPY: c:\simadyn**melcopy** Enter (enter key).

The following menu is displayed:



Now select the „tools“ menu item using the arrow keys and depress Enter.

Now position the menu bars under the „drive status“ sub-item, and depress Enter.

You can now select the required drive using the arrow keys (the first drive is always the P16 slot).

If you have selected the drive, press Enter again; if the installation was successful, a message window opens with various pieces of information regarding the drive.

However, if the drive was not able to be identified, then a window appears with an error message. If this occurs, please check that all of the installation instruction points have been observed.

Please refer to the MELCOPY.DOC file for further information regarding MELCOPY.

1.4.4 Parallel programmer as DOS drive

SRAM standard PCMCIA memory cards and **SIMADYN memory modules MS5, MS55, MS45** can be used in the parallel programmer as DOS compatible data medium.

In order to be able to use the memory modules as MS-DOS-compatible memory medium, these must be **formatted** just like floppy disks before they are first used; they are formatted using the utility program MELFORM.EXE.

Formatting is started by entering: `MELFORM m:` Enter (enter key)
(m specifies the drive name which is to be formatted).

Special options or parameters are specified in the actual READ.ME and MELFORM.DOC file on the floppy disk supplied.

MELFORM then prompts you to insert a card or a memory module into the parallel programmer. Formatting is then started by entering Enter.

The formatter automatically identifies the size of the inserted card or module. For PCMCIA memory cards, an address space of 8 kbyte to 64 Mbyte is supported.

If the formatter identifies data medium errors or a parallel programmer fault, then these are appropriately signaled.

NOTE
Only PCMCIA memory cards and SIMADYN memory modules can be formatted using MELFORM.EXE, which are either written into or read-out of, such as SRAM and EEPROM. Otherwise, an error message is output. For RAM cards with write protection switch, this must be set into the <OFF> position.